

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. – 35. (Cancelled)

36. (Previously Presented) A method of treating a vessel in a human body comprising:

passing a balloon catheter, which has a balloon, over an elongate stent carrying member, which has a stent attached thereto and serves as a guidewire for the balloon catheter, to a treatment site in a vessel in a human body such that said balloon is aligned with said treatment site; and

expanding said balloon while said balloon catheter is over said elongate stent carrying member with said balloon aligned with the treatment site to dilate the treatment site prior to deployment of said stent.

37. (Previously Presented) The method of claim 36 wherein said balloon is at least partially deflated and said balloon catheter is moved to allow deployment of said stent from said elongate stent carrying member at the treatment site.

38. (Previously Presented) The method of claim 37 wherein said balloon is at least partially deflated and said balloon catheter is moved to allow deployment of said stent from said elongate stent carrying member at the treatment site without removing said balloon catheter from said elongate stent carrying member.

39. (Previously Presented) The method of claim 36 wherein said balloon catheter has a distal end and said balloon catheter is moved so that said distal end clears the treatment site.

40. (Previously Presented) The method of any one of claims 37, 38, and 39 wherein said stent is deployed at the treatment site and assumes an at least partially expanded shape and said balloon positioned in the deployed stent and expanded to expand said stent without removing said balloon catheter from said elongate stent carrying member.

41. (Previously Presented) The method of claim 36 wherein said stent is a self-expanding stent.

42. (Previously Presented) An angioplasty method comprising:
positioning an elongate stent carrying member with a self-expanding stent directly attached thereto at a location in a vessel, which has a lesion;
passing a balloon catheter, which has a balloon, over said elongate stent carrying member prior to deploying said stent from said elongate stent carrying member wherein said elongate stent carrying member serves as a guidewire for said balloon catheter;
aligning said balloon of said balloon catheter with the lesion; and
expanding said balloon in performing the angioplasty.

43. (Previously Presented) The method of claim 42 wherein said balloon is expanded at the lesion in performing the angioplasty without removing said balloon catheter from said elongate stent carrying member.

44. (Previously Presented) The method of claim 43 wherein after said balloon is expanded, it is at least partially deflated and moved away from the lesion after which said stent is deployed from said elongate stent carrying member at the lesion where said stent assumes an at least partially expanded shape.

45. (Previously Presented) The method of claim 44 wherein said balloon catheter is repositioned so that said balloon is in the deployed stent after which said balloon is expanded to further expand the stent.

46. (Previously Presented) A method for treating a lesion in a human body comprising:

positioning an elongate stent carrying member, which has a self-expanding stent attached thereto, at a location in a vessel with the stent near a lesion;

passing a balloon catheter with an expandable balloon over said elongate stent carrying member, which serves as a guidewire for said balloon catheter, to the lesion prior to deploying said stent from said elongate stent carrying member and dilating the lesion with said balloon, which surrounds the elongate stent carrying member;

moving said balloon catheter after at least partial deflation thereof to allow deployment of said self-expanding stent at the lesion, while maintaining said balloon catheter on said elongate stent carrying member; and

deploying said self-expanding stent from said elongate stent carrying member at the dilated lesion wherein the stent assumes an at least partially expanded shape.

47. (Previously Presented) The method of claim 46 further comprising moving said balloon catheter over said elongate stent carrying member after deployment of said stent and positioning said balloon catheter balloon in the deployed stent and expanding the balloon catheter balloon and deployed stent.

48. (Previously Presented) A method of treating a vessel in a human body comprising:

passing a balloon catheter, which has a balloon, over an elongate stent carrying member, which has a stent attached thereto and serves as a guidewire for the balloon catheter as the balloon is passed thereover, while advancing said balloon catheter toward a treatment site in a vessel in a human body prior to deploying the stent from said elongate stent carrying member;

aligning said balloon with said treatment site prior to deploying the stent from said elongate stent carrying member; and

subsequent to said aligning said balloon with said treatment site, expanding said balloon while said balloon catheter is over said elongate stent carrying member with said stent

attached thereto and said balloon aligned with the treatment site to dilate the treatment site prior to deployment of said stent.

49. (New) The method of any one of claims 36, 42, 46, and 48, wherein at least one releasable joint maintains at least a section of the stent at a delivery diameter until release of the at least one releasable joint and the stent is releasably attached to the elongate stent carrying member by the at least one releasable joint.

50. (New) The method of claim 49 wherein the at least one releasable joint is configured to release upon application of a suitable DC current.

51. (New) The method of claim 49 wherein the at least one releasable joint is mechanically released to release the stent.

52. (New) The method of claim 49 wherein the at least one releasable joint is configured to release upon application of fluid pressure in the stent carrying member where a fluid director is slidably located to direct fluid to and release the at least one releasable joint.

53. (New) The method of claim 49 wherein an actuator in the stent carrying member is used to release the at least one releasable joint.